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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,193	09/11/2003	Peter Masak	7420-069-999	5778
20583	7590	09/13/2004		
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			EXAMINER VARGAS, DIXOMARA	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/660,193	MASAK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dixomara Vargas	2859	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller (US 5,280,243 A).

With respect to claims 1 and 24, Miller discloses an apparatus for making nuclear magnetic resonance measurements, comprising: a magnet having a longitudinal axis, the magnet being twisted about the longitudinal axis to form a helical spatial configuration and to generate a helical static magnetic field substantially perpendicular to the longitudinal axis (Figures 1 and 2, #46); an antenna configured to generate a radio frequency (RF) magnetic field substantially perpendicular to the static magnetic field of the magnet and to receive NMR signals from excited nuclei (Figures 4, #48); and a protective collar overlaying at least a portion of the magnet and having a helical configuration substantially similar to the spatial configuration of the magnet (Figure 4 #48).

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4. With respect to claims 2 and 25, Miller discloses the protective collar has one or more lateral projections extending outward from the collar and having substantially similar helical spatial configuration (Figure 1, #38).
5. With respect to claims 3, 4 and 26, Miller discloses a drilling means (Figure 1, #36).
6. With respect to claim 5, Miller discloses the antenna is mounted in a recess of the protective collar (Figures 1 and 4, #66).
7. With respect to claims 6 and 27, Miller discloses the antenna electrically isolated from the protective collar (Column 9, lines 13-14).
8. With respect to claims 7, 19 and 28, Miller discloses the protective collar made of non-magnetic metal or metal alloy including one or more of: Inconel 718, Monel metal and P-550 alloy and the apparatus further comprises an electrically insulating and non-magnetic sleeve enclosing the collar and the antenna (Column 7, lines 21-44).
9. With respect to claim 8, Miller discloses the sleeve comprising fiberglass (Column 7, lines 21-44).
10. With respect to claim 9, Miller discloses the lateral projections comprising two lateral projections on opposite sides of the protective collar (Figure 1).
11. With respect to claims 10 and 23, Miller discloses the protective collar has a twist angle that produces a 180 degree turn over the length of the magnet (Figure 1).
12. With respect to claim 11, Miller discloses the antenna producing an approximation of a magnetic dipole field (Column 10, lines 14-16).
13. With respect to claim 12, Miller discloses the antenna comprising two pairs of elongated conductors disposed along the length of the protective collar (Figure 4, #52 and #54).

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14. With respect to claim 13, Miller discloses the antenna has a twisted saddle-shape (Figure 4).

15. With respect to claim 14, Miller discloses the antenna composes a combination of longitudinal and arc-shaped conductors (Figure 4).

16. With respect to claim 15, Miller discloses each of said conductors is of a relatively narrow width defined by an arc of a first predetermined polar angle measured with respect to said axis, and wherein the distance between the centers of the arcs of each pair of conductors is a second predetermined polar angle measured with respect to said axis (Column 10, lines 25-31).

17. With respect to claims 16, 17 and 22, Miller discloses said first predetermined polar angle is approximately 15 degrees or 20 degrees (Column 10, lines 32-35).

18. With respect to claim 18, Miller discloses said pairs of electrical conductors are connected in series with each other, and wherein conductors of each pair are connected in parallel with each other (Column 6, lines 5-12).

19. With respect to claim 20, Miller discloses said static magnetic field of the magnet is a gradient static magnetic field (Column 4, lines 16-18).

20. With respect to claims 21 and 29, Miller discloses the magnet comprises a plurality of segments, successive segments being offset, so as to form an overall helical configuration over the length of the magnet (Column 5, lines 24-42).

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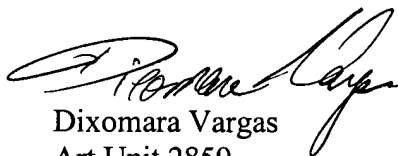
***Conclusion***

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional prior art cited in the PTO 892 discloses MR logging tools with a twisted magnet and a protective collar for said helical magnet.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (571) 272-2252. The examiner can normally be reached on 8:00 am. to 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dixomara Vargas  
Art Unit 2859  
September 8, 2004



Diego Gutierrez  
Supervisory Patent Examiner  
Technology Center 2800